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REMARKS/ARGUMENTS

As detailed on page 2 of the Final Official Action, claims 1-48 are before the Examiner in this application (the reference to claims 1-49 being "pending" and "rejected" on the Office Action Summary Sheet is believed to be a typographical error). Claims 1-24, 26-36 and 38-48 have been amended and therefore claims 1-48 are the only claims remaining in this application.

Interview with Examiner Li conducted February 26, 2008

Examiner Li returned Applicants' undersigned representative's telephone inquiry on February 26, 2008 (two calls). The basis for various objections and rejections discussed in the Final Rejection were also discussed. Agreement reached with respect to each one of the portions of the Official Action are addressed in detail below.

The Examiner correctly noted that with reference to claim 26 in section 3 of the Official Action, the omission of the letter "A" from the beginning of the claim was a typographical error. The Examiner indicated that the proper correction of this typographical error is to retype claim 26 with "A" inserted, but to refrain from underlining "A" since "A" was never deleted from the claim in any accepted PTO format. Accordingly, Applicants have retyped claim 26 with the "A" included, but would note that this has been cancelled in favor of "The" as requested by the Examiner (as discussed below). Accordingly, the objection to claim 26 in section 3 has been obviated.

The objection to the drawings in section 4 of the Official Action was noted. However, Applicants' representative noted that the drawings have not changed between the original filing and the Final Rejection and the drawings could have been objected to in the first Official Action thereby providing Applicants with an opportunity to ensure that corrected drawings would be

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entered into the record. Examiner Li agreed that Applicants' submission of the appropriate replacement sheets of drawings would be entered at least for the purpose of appeal. Thus, entry of the replacement sheets of drawings is respectfully requested.

On page 3, section 5(a) of the Official Action, the Examiner objects to independent claim 1, with the duplicate words "for" contained in sections (ii), (iii) and (iv). In the above amendment, applicants have amended claim 1 consistent with the Examiner's comments.

In section 5(b), the Examiner requested Applicant amend each of claims 2-12 to change "Apparatus as claimed" to read "The apparatus as claimed." Applicants' undersigned representative queried the Examiner as to any statutory, rule, MPEP or Patent Office policy requiring any such change. The Examiner indicated that there did not appear to be any policy, but Applicants' undersigned representative agreed to make the change anyway, since it did not appear to affect the scope of claims 2-12.

On page 3, section 5(c), the Examiner correctly noted that the language in claim 13, sections (iii) and (iv), should be amended to read "determining a target branch address . . ." and "branching to a sub-routine at said target branch address . . ." Applicants have made these amendments to claim 13.

On page 3, section 5(d,) the Examiner indicated a required correction to change "A method" to read "The method." Again, the Examiner was queried as to any statutory, rule, MPEP or PTO policy requiring such change and could not identify any basis for such requirement. While the letter "A" by itself does not establish antecedent basis for a dependent claim, each of these claims specifies "as claimed in claim . . ." with a reference to the parent claim for the specified dependent claim. Accordingly, the reference to a parent claim in the

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dependent claim clearly identifies the antecedent basis and there is no need to recite "The method." This was pointed out to the Examiner and it was agreed that, in spite of the lack of any requirement for such a change, Applicants would make those minor changes in claims 14-24 (and also in claims 26-36 and 38-48 as objected to on page 4, section 5(f)).

On page 3, section 5(e), claims 25 and 37 were objected to, with the Examiner suggesting a reversal of the recitation "A computer program product comprising a computer readable storage medium" to read "A computer-readable storage medium comprising a computer program product" Again, Applicants' representative pointed out to the Examiner that the currently pending format of claims 25 and 37 is the format currently approved by the U.S. PTO as evidenced by this format being used in, for example, U.S. Patent 6,836,860. Applicants' representative inquired as to whether there was any evidence of a change in PTO policy regarding the recitation of computer program product claims and the Examiner did not provide evidence of any such change. It was agreed that Applicants' representative would keep claims 25 and 37 as previously presented and the Examiner would accept such language.

Therefore, in view of the above amendments, it was agreed that all claim objections set out in section 5 (a) – (f) on pages 3 and 4 of the Official Action have either been withdrawn or complied with in the above amendment and therefore there is no further basis for objection to the pending claims.

In sections 7 and 9 on page 4 of the Official Action, claims 1-12 stand rejected under 35 USC §101 and 35 USC §112 as allegedly being improper for reciting an improper definition of a process claim or failing to set forth steps involved in the process claim. Applicants' undersigned representative pointed out that claims 1-12 were apparatus claims and while the claims did

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include a recitation of steps (i)-(iv), those steps went to defining the interrelationship of the claimed instruction decoder and the processing logic. Again, Applicants' representative asked whether there was any support for requiring an apparatus claim to positively recite process claim language therein. It was agreed that, upon filing this amendment, the Examiner would withdraw the rejections of claims 1-12 under 35 USC §§101 and 112.

There was no discussion during the interview of any rejection on the merits of the pending claims and no agreement was reached.

Claims 1-5, 7, 9-11, 13-17, 19, 21-23, 25-29, 31, 33-35, 37-41, 43 and 45-47 stand rejected under 35 USC §103 as being unpatentable over Ishizaki (U.S. Patent 6,484,314) in view of Hennessy ("Computer Organization and Design: The Hardware/Software Interface"). In section 11 of the Final Rejection and the subsequent discussion of the rejection on the merits, the Examiner takes the position that the Ishizaki reference teaches all features of claim 1 except for the feature of "(ii)," i.e., "copying, in dependence upon a result of said comparison, a program counter value to a third register." The Examiner's admission that this claimed aspect of independent claim 1 is missing from the Ishizaki reference (as specifically stated in section 13 on page 6 of the Official Action) is very much appreciated.

The Examiner further notes in section 13 that "Ishizaki has taught branching on an exception and exception handling, but not the specifics on how exception handling affects the program counter" (emphasis added). This admission is also appreciated. However, the Examiner appears to believe that Hennessy has specifically taught "copying, in dependence upon a result of said comparison, a program counter value to a third register, and for determining a target branch address from said program counter value," i.e., sections (ii) and (iii) as stated in

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Applicants' independent claim 1. This assessment of Hennessy is believed to be incorrect for the reasons noted below.

Hennessy at page 411, lines 22-25, specifically states that "[t]he basic action that the machine must perform when an exception occurs is to save the address of the offending instruction in the exception program counter (EPC) and then transfer control to the operating system." In view of this clear statement in Hennessy, the program counter value (address of the offending instruction) is copied to an exception program counter not in response to a comparison result (as required in Applicant's claim 1), but rather, in response to an exception. Quite clearly, Hennessy does not teach the subject matter of claim 1, sections (ii) and (iii) and the corresponding sections of the other independent claims.

As a result of the above, even if Ishizaki and Hennessy were combined, they would fail to teach the claimed "instruction decoder" of claim 1 at sections (ii) and (iii) and the corresponding portions of the other independent claims reciting similar structure or method steps. Without a teaching of the claimed invention in the combination of two or more references, there can be no *prima facie* case of obviousness and any further rejection thereunder is respectfully traversed.

Issue is also taken with the Examiner's statement that a person of ordinary skill in the art as taught by Hennessy "would have recognized that copying the program counter value . . ." on page 7, the last several lines of section 13. The specific error is that the Examiner contends that it would be obvious to one of ordinary skill in the art in view of Hennessy "to ensure the exception handler takes the appropriate action to report and correct the error and restart program execution when the exception is handled." In point of fact, this functionality is actually disclosed in Ishizaki which is specifically directed to achieving this result (but in a very different

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manner from that set out in Applicants' independent claims). Ishizaki teaches at column 5, lines 50-65, that when a condition described in the tw/twi (compare and branch) instructions is established, a branch is performed to the exception handler.

Thus, Ishizaki clearly teaches that the instruction, that gave rise to the exception, is decoded to determine the cause of the exception. In this way, Ishizaki is able to "report and correct the error." This teaching is central to the operation of the Ishizaki device and one of ordinary skill in the art would not contemplate replacing these critical features without some good reason or strong motivation. As indicated in the remarks portion of the previous Amendment, these features of Ishizaki clearly would lead one of ordinary skill in the art away from "copying, in dependence upon a result of said comparison, a program counter value to a third register" as in claim 1, section (ii) and "determining a target branch address from a pre-program stored value and said program counter value" as recited in sub-section (iii) of claim 1.

It is possible that the Patent Office confusion is because the Examiner has not appreciated that Ishizaki and Hennessy relate to the handling of two very different types of exceptions. Ishizaki, like the present invention, relates to the handling of "software exceptions," especially where the software program itself handles any events which disrupt the normal flow of the execution of the program. Hennessy relates to the handling of CPU exceptions whereby an unexpected event within the processor is analyzed and dealt with by the operating system.

Thus, there is an inherent incompatibility between the Ishizaki and Hennessy references and this incompatibility is clearly highlighted by the definition of "exceptions and interrupts" given on page 410, lines 24 and 25 of Hennessy, which he defines as "events other than branches or jumps that change the flow of instruction execution." This is in clear conflict with the Ishizaki

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reference which specifically deals with "exception instruction" which compares values and then branches to an exception handler in dependence on the result of the comparison.

As noted above, Ishizaki's central teaching leads one away from claim 1 (ii) and (iii). Hennessy would not be combinable with Ishizaki because it relates to a different problem (i.e., the handling of CPU exceptions rather than software and compare and branch instructions). Ishizaki mandates a completely different approach to analyzing instructions which give rise to the branch, while Hennessy merely provides a basic description of a known exception handling mechanism in a CPU.

In view of the above, Applicants believe that at least the Final Rejection fails to provide the required reason, rationale or motivation for combining portions of Ishizaki and Hennessy and therefore no *prima facie* case of obviousness is set out. However, even if there were some reason or motivation for combining bits and pieces of Ishizaki and Hennessy in the manner of Applicants' independent claims, the fact that Ishizaki so strongly teaches away from Applicants' claimed invention, that teaching away clearly rebuts any *prima facie* case of obviousness. Accordingly, even if a *prima facie* case of obviousness has been set out, it is clearly rebutted by the contrary teaching in Ishizaki.

As the Examiner notes, independent claims 13, 25 and 37 contain similar limitations to claim 1 and are rejected for similar reasons (Office Action page 7, section 14). Accordingly, the above discussion with respect to the patentability of claim 1 and the other independent claims 13, 25 and 37 is herein incorporated by reference. Inasmuch as all other claims depend from one or more of the above-referenced independent claims, it is believed unnecessary to respond to these dependent claim rejections in that the independent claims are believed clearly patentable over the

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Ishizaki/Hennessy combination. It is noted that the Examiner does not suggest that any other reference somehow cures the deficiencies in the Ishizaki/Hennessy combination.

Entry of the Amendment under Rule 116

Entry of the above amendments under the provisions of Rule 116 is respectfully requested. Agreement was reached during the above discussed interview with the Examiner that the bases for the objection to claim 26 in section 3 of the Official Action and the objections to claims 1-48 set out in sections 5(a)-(f) on pages 3 and 4 of the Official Action would either be withdrawn or cured in view of the above claim amendments which would be entered. Additionally, the Examiner indicated that the rejections of claims 1-12 under §101 and §112 would be withdrawn in any Rule 116 amendment filed.

Applicants enclose herewith substitute sheets of the drawings, thereby curing the delayed objection to the drawings and avoiding any adverse consequence to Applicants for the Patent Office delay in setting forth the drawing objection. Accordingly, because the above amendments respond to either objections raised for the first time or objections which have no statutory, judicial, MPEP or PTO policy basis, it was agreed during the telephone interview that these amendments would be entered, as would the drawings, to the record in the event Applicants proceed to appeal.

While Applicants are of the belief that an extremely strong case has been made for patentability of all independent claims and claims dependent thereon over the Ishizaki/Hennessy combination of references, should the Examiner believe that she has set forth a *prima facie* basis for obviousness and that the clear teaching away of the Ishizaki reference does not rebut the

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prima facie case, entry of this amendment will facilitate the reduction of issues for the Board and therefore entry is respectfully requested.

Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that claims 1-48 are in condition for allowance and notice to that effect is respectfully solicited. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, she is respectfully requested to contact Applicants' undersigned representative.

Applicants request the courtesy of a telephone indication from the Examiner as to the entry and/or allowance of this Amendment in order to facilitate Applicants' timely filing of a Notice of Appeal if needed.

Respectfully submitted,

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